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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/627,787	07/27/2000	Eugen Uhlmann	02481.1679	1128

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EXAMINER

SCHNIZER, RICHARD A

ART UNIT PAPER NUMBER

1635

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/627,787	Applicant(s) UHLMANN ET AL.	
	Examiner Richard Schnizer, Ph. D	Art Unit 1635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
4a) Of the above claim(s) 8-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 9 is/are allowed.
- 6) ☐ Claim(s) 8, 11-15, 22-26, 31 and 35 is/are rejected.
- 7) ☐ Claim(s) 10, 16-21, 27-30, 32-34 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

5.00

DETAILED ACTION

An amendment was received and entered on 5/25/05.

Claims 2-7 was canceled, and new claims 33-36 were added as requested.

Claims 8-36 are pending and are under consideration in this Office Action.

Rejections Withdrawn

Applicant's amendments overcome the written description rejection of record.

Claim Objections

Applicant's amendment overcomes the objection to claim 9 for omission of an oxygen from structure (F4).

Claim 20 is objected to because it has been amended to include the word "method" twice in succession. In addition, claim 20 was marked-up incorrectly in the amendment because it contains "p~~ro~~cess". The word process was not in the previous version of claim 20, and so could not be deleted from it.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11-15, 22, and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 11-15, 22, and 23 are indefinite because they recite "said molecule which comprises a reactive group at the position to which the aryl radical is to be attached" without antecedent basis. These claims depend from claim 8 which recites a "conjugate comprising a molecule". There is no requirement in claim 8 that the molecule must be conjugated through a reactive group. For example, the conjugation could be through hydrophobic and/or van der Waals interactions which do not require any reactive group, nor do they require any single site for attachment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8, 24-26, 31, and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al (Macromolecules 23(24): 5044-5058, 1990), as evidenced by Desai et al (US 20040225022, published 1/11/04).

Chen taught the synthesis of thermotropic chiral nematic copolymers. The process involves the use of a starting material meeting the structural limitations of claim 8 wherein R1 is $(CH_2)_5-O-C(O)C(CH_3)=(CH_2)$, X and Y are each O, the aryl group is a phenyl group, R3 is a carbonyl, and the group to be transported is a p-oxy-phenyl-methoxy group of molecular weight of 123. See structure (i) in Table 1 on page 5056. This rejection is based upon a broad but reasonable interpretation of the claim in which

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the group to be transported is considered to be transported to the polymer in the process of polymer formation.

Regarding claim 24, the molecule of Chen is dissolved in tetrahydrofuran which is recognized in the art as a solvent used in pharmaceutical compositions. See page 5055, column 2, second full paragraph of Chen, and claim 27 of Desai which teaches the use of tetrahydrofuran as a solvent in pharmaceutical compositions.

Claim 25 is included in this rejection because Chen taught a composition comprising the conjugate of claim 8, thereby meeting the structural limitations of claim 25. Absent evidence to the contrary, the composition of Chen is a diagnostic aid.

Regarding claim 26, molecules of Table 1 of Chen can be considered to constitute a test kit for determining appropriate polymerization conditions.

Thus Chen anticipates the claims.

Response to Arguments

Applicant's arguments filed 5/25/05 have been fully considered but they are not persuasive.

Applicant argues that Chen fails to anticipate the claims because the R1 group of Chen includes an oxygen-containing ester functionality. Applicant reasons that the R1 group of Chen therefore contains an oxygen in its backbone and so does not comprise a hydrocarbon radical. This is unpersuasive. The claims allow for a substituted hydrocarbon radical. Chen teaches a C5 hydrocarbon radical in which the terminal carbon is substituted with a carboxyl functional group, i.e. $\text{-O-C(O)C(CH}_3\text{)=(CH}_2\text{)}$.

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Neither the specification nor the claims limits the nature of the substitution, so this embodiment is clearly within the scope of the claims.

Applicant also argues that Chen does not teach a molecule capable of being transported across a biological membrane. This is unpersuasive because it is a statement of opinion unsupported by evidence or logic. The p-oxy-phenyl-methoxy group of Chen is far less hydrophilic than the instantly claimed nucleic acids, and absent evidence to the contrary it could be transported across a membrane.

Conclusion

Claim 9 is allowable. Claims 10, 16-19, 21, 27-30, 32-34, and 36 are objected to because they depend from rejected claim 8, but would be allowable if rewritten in independent form incorporating all the limitations of claim 8. The same would apply to claim 20 after grammatical correction.

Any inquiry concerning this communication or earlier communications from the examiner(s) should be directed to Richard Schnizer, whose telephone number is 571-272-0762. The examiner can normally be reached Monday through Friday between the hours of 6:00 AM and 3:30. The examiner is off on alternate Fridays, but is sometimes in the office anyway.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Andrew Wang, can be reached at (571) 272-0811. The official central fax number is 571-273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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Patent applicants with problems or questions regarding electronic images that can be viewed in the Patent Application Information Retrieval system (PAIR) can now contact the USPTO's Patent Electronic Business Center (Patent EBC) for assistance. Representatives are available to answer your questions daily from 6 am to midnight (EST). The toll free number is (866) 217-9197. When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center (UCC) at 800-786-9199.

A handwritten signature in black ink, appearing to read 'R. Schnizer', with a long horizontal flourish extending to the right.

Richard Schnizer, Ph.D.